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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,308	09/27/2006	Yasuyuki Arai	0756-7836	3549

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EXAMINER	
WANG, JACK K	

ART UNIT	PAPER NUMBER
2612	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,308	ARAI ET AL.	
	Examiner	Art Unit	
	JACK WANG	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are pending in this application.

Specification

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "39" (Page 15 line 10) and "37" (Fig. 4) have both been used to designate resonant circuit portion. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 10 is objected to because of the following informalities: missing comma at end of sentence (Page 38 line 22). Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bridgelall et al. (Pub # US 2004/0217867 A1), and further in view of Van De Walle et al. (Pub # US 2004/0245519 A1).

Consider claim 1, Bridgelall et al. teaches a product management system comprising a package (20, Fig. 1) for packing a product provided with a semiconductor device (RFID tags) (22, Fig. 1), and a reader/writer for reading and writing information stored in the semiconductor device [0003 lines 5-14), wherein the package (20, Fig. 1) is provided with a resonance circuit (relay device) (23, Fig. 2) comprising an antenna coil (26 and 27, Fig. 2) and a capacitor (commonly embedded within antenna circuit); and wherein the resonance circuit (relay device) (23, Fig. 2) can communicate with the reader/writer and the semiconductor device [0026], except wherein the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6) [0039 lines 28-29] for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al., in

Bridgelall et al. device for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Consider claim 2, Bridgelall et al. clearly shown and disclose the product management system, wherein a communication method between the reader/writer (interrogator) and the resonance circuit (relay device) (23, Fig. 4) is identical to a communication method between the resonance circuit (relay device) (35, Fig. 4) and the semiconductor device (RFID tag) (32, Fig. 4) [0027].

Consider claim 3, Bridgelall et al. clearly shown and disclose the product management system, wherein the communication method is an electromagnetic induction method (UHF) (36, Fig. 4) [0027 lines 17-24].

Consider claim 4, Bridgelall et al. clearly shown and disclose the product management system, wherein a communication method between the reader/writer and the resonance circuit is different from a communication method between the resonance circuit and the semiconductor device [0028].

Consider claim 5, Bridgelall et al. clearly shown and disclose the product management system, wherein the communication method between the reader/writer and the resonance circuit is any one of an electromagnetic induction method (UHF) and a microwave method [0027 lines 17-24].

Consider claim 6, Bridgelall et al. teaches a product management system comprising a package (20, Fig. 1) for packing a product provided with an semiconductor device (RFID tags) (22, Fig. 1), and a reader/writer (interrogator) for reading and writing information stored in the semiconductor device, wherein the package is provided with a resonance circuit (relay device)

(23, Fig. 2) comprising an antenna coil (26 and 27, Fig. 2) and a capacitor (commonly embedded in antenna circuit); wherein the resonance circuit (relay device) (23, Fig. 2) can communicate with the reader/writer (interrogator) and the semiconductor device (RFID tags) (22, Fig. 1) [0026], except wherein a communication range between the reader/writer and the resonance circuit is longer than a communication range between the resonance circuit and the semiconductor device; and wherein the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna.

Although Bridgelall et al does not specifically disclose the communication range between the reader/writer and the resonance circuit is longer than a communication range between the resonance circuit and the semiconductor device. He does disclose the resonance circuit (relay device) (23, Fig. 2) can be placed within or attached to an exterior portion of the container (24, Fig. 2) [0026 lines 7-13], and the reader/writer is placed a distance away from the container. Since the semiconductor device is located within the container, and the resonance circuit is proximately to the container, wherein the reader/writer is placed a distance away from the container. Therefore, it would have been obvious to one of ordinary skill person in art at time of the invention to reasonably interpret the communication range between the reader/writer and the resonance circuit is longer than a communication range between the resonance circuit and the semiconductor device.

Furthermore, in the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6)

[0039 lines 28-29] for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al., in Bridgelall et al. device for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Consider claim 7, Bridgelall et al. clearly shown and disclose the product management system, wherein the communication method between the reader/writer and the resonance circuit is any one of an electromagnetic induction method (UHF) and a microwave method [0027 lines 17-24].

Consider claim 8, Bridgelall et al. clearly shown and disclose the product management system, wherein the semiconductor device is an ID tag [0003 lines 5-8].

Consider claim 9, Bridgelall et al. teaches a method comprising: sending at least one of a first signal (38, Fig. 4) comprising first information and a first electric power from a reader/writer (interrogator) to a resonance circuit (relay device) (35, Fig. 4), sending at least one of a second signal (36, Fig. 4) comprising the first information and a second electric power from the resonance circuit (relay device) (23, Fig. 4) to a semiconductor device (RFID tags) (22, Fig. 1) in response to a receipt of said at least one of the first signal (38, Fig. 4) and the first electric power; sending a third signal (34, Fig. 4) comprising second information from said semiconductor device (RFID tags) (22, Fig. 1) to the resonance circuit (relay device) (23, Fig. 4) in response to a receipt of said at least one of the second signal (34, Fig. 4) and the second

electric power by the semiconductor device (relay device) (23, Fig. 4), sending a forth signal (36, Fig. 4) comprising said second information from the resonance circuit (relay device) (35, Fig. 4) to the reader/writer (interrogator) [0027], wherein the semiconductor device (RFID tags) (22, Fig. 1) is attached to a product (42, Fig. 5), the product (42, Fig. 5) is contained in a package (40, Fig. 5), the resonance circuit (28, Fig. 5) is attached to the package (40, Fig. 5) and the reader/writer is disposed outside of the package (40, Fig. 5) [0028], except wherein said semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6) [0039 lines 28-29] for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al., in Bridgelall et al. method for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Consider claim 10, Bridgelall et al. teaches a method comprising: sending at least one of a first signal (38, Fig. 4) comprising first information and a first electric power from a reader/writer (interrogator) to a resonance circuit (relay device) (35, Fig. 4), sending at least one of a second signal (36, Fig. 4) comprising the first information and a second electric power from the resonance circuit (relay device) (23, Fig. 4) to a semiconductor device (RFID tags) (22, Fig.

1) in response to a receipt of said at least one of the first signal (38, Fig. 4) and the first electric power; sending a third signal (34, Fig. 4) comprising second information from said semiconductor device (RFID tags) (22, Fig. 1) to the resonance circuit (relay device) (23, Fig. 4) in response to a receipt of said at least one of the second signal (34, Fig. 4) and the second electric power by the semiconductor device (relay device) (23, Fig. 4), sending a forth signal (36, Fig. 4) comprising said second information from the resonance circuit (relay device) (35, Fig. 4) to the reader/writer (interrogator) [0027], sending a fifth signal comprising said second information from the second resonance circuit to the first resonance circuit, sending a sixth signal comprising said second information from the first resonance circuit to the reader/writer [0026 lines 17-25], wherein the semiconductor device (RFID tags) (22, Fig. 1) is attached to a product (42, Fig. 5), the product (42, Fig. 5) is contained in a package (40, Fig. 5), the resonance circuit (28, Fig. 5) is attached to the package (40, Fig. 5) and the reader/writer is disposed outside of the package (40, Fig. 5) [0028], except wherein said semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna.

In the same field of endeavor, Van De Walle et al. teaches the semiconductor device (transponder) (100, Fig. 6) comprises a thin film integrated circuit comprising a thin film transistor (10, Fig. 6) [0039 lines 12-15], and an antenna (41, Fig. 6) [0039 lines 28-29] for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the semiconductor device comprises a thin film integrated circuit comprising a thin film transistor, and an antenna as shown in Van De Walle et al., in

Bridgelall et al. method for the benefit of providing microcontact printing to reduce the manufacturing cost of RFID tag.

Consider claim 11, Bridgelall et al. clearly shown and disclose the method, wherein the semiconductor device is an ID tag [0003 lines 5-8].

Consider claim 12, Bridgelall et al. clearly shown and disclose the method, wherein the first package (40, Fig. 5) is a container [0028 lines 6-9].

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Kikuchi et al. (Pub # US 2003/0116790 A1) "Semiconductor chip and semiconductor device using the semiconductor chip".

b. Brown et al. (Pub # US 2005/0128086 A1) "Durable radio frequency identification label and methods of manufacturing the same".

c. Jesme (Pub # US 2003/0071731 A1) "Amplifier modulation".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JACK WANG whose telephone number is (571)272-1938. The examiner can normally be reached on M-F 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JKW/

/Daniel Wu/
Supervisory Patent Examiner, Art Unit 2612